
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Nimon et al.

Attorney Docket No.: PLUSP023D1

Application No.: Not yet assigned

Examiner: Not yet assigned

Filed: August 20, 2003

Group: Not yet assigned

Title: ELECTROLYTES WITH STRONG
OXIDIZING ADDITIVES FOR
LITHIUM/SULFUR BATTERIES

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §§1.56 AND 1.97(c)

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The references listed in the attached PTO Form 1449, copies of which are attached, may be material to examination of the above-identified patent application. Applicants submit these references in compliance with their duty of disclosure pursuant to 37 CFR §§1.56 and 1.97. The Examiner is requested to make these references of official record in this application.

This Information Disclosure Statement is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these references indeed constitute prior art.

This Information Disclosure Statement is believed to be filed before the mailing date of a first Office Action on the merits. Accordingly, it is believed that no fees are due in connection with the filing of this Information Disclosure Statement. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 500388 (Order No. PLUSP023D1).

Respectfully submitted,

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Form 1449 (Modified) Information Disclosure Statement By Applicant (Use Several Sheets if Necessary)	Atty Docket No. PLUSP023D1 Applicant: Nimon, et al Filing Date August 20, 2003	Application No.: Not yet assigned Group Not yet assigned
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U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A1	3,404,035	10/01/68	J.T. Kummer et al.			
	A2	3,413,150	11/26/68	J.T. Kummer et al			
	A3	3,532,543	10/06/70	Nole & Moss			
	A4	3,907,591	09/23/75	Lauck			
	A5	3,915,743	10/28/75	Lauck			
	A6	3,947,289	3/30/97	Dey, et al			
	A7	3,953,231	04/27/76	Farrington & Roth			
	A8	4,002,492	1/11/77	Rao			
	A9	4,410,609	10/18/83	Peled & Yamin			
	A10	4,143,214	3/06/79	Chang			
	A11	4,268,587	5/19/81	Farrington, et al.			
	A12	4,436,796	3/13/84	Huggins et al.			
	A13	4,386,019	5/31/83	Kaun et al.			
	A14	4,469,761	09/04/84	Bennett et al.			
	A15	4,664,991	5/12/87	Perichaud, et al.			
	A16	4,784,925	11/15/88	Klinedinst et al.			
	A17	4,784,927	11/15/88	Klinedinst et al.			
	A18	4,820,599	4/11/89	Furukawa et al.			
	A19	4,833,048	05/23/89	Dejonghe et al.			
	A20	4,889,779	12/26/89	Connolly et al.			
	A21	4,917,974	04/17/90	De Jonghe et al.			
	A22	5,162,175	11/10/92	Visco et al.			
	A23	5,523,179	6/4/96	Chu			
	A24	5,529,860	6/25/96	Skotheim et al.			
	A25	5,532,077	7/2/96	Chu			
	A26	5,582,623	12/10/96	Chu			
	A27	5,686,201	11/11/97	Chu			
	A28	5,691,083	11/25/97	Bolster			
	A29	5,698,339	12/16/97	Kawakami et al.			
Examiner				Date Considered			

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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U.S Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A30	6,017,651	1/25/00	Nimon, et al			
	A31	6,030,720	2/29/00	Chu, et al			
	A32	6,045,937	4/14/00	Kolb, et al			
	A33	6,225,002	5/01/00	Nimon, et al			

Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
	B1	EP0602984A2	6/94	EPO			X	
	B2	EP0689260	12/27/95	EPO			X	
	B3	GB2 273603A	6/94	Great Britain				
	B4	GB2 137406A	10/84	Great Britain				
	B5	6-275313	9/30/94	Japan			X	
	B6	2311410	9/24/97	UK				

Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	C1	Abstract of proceedings of the 6 th International Symposium of Power Sources 2, 1968, Brighton, Sussex, UK, 24-26, September 1968
	C2	Coleman et al, "The sulfur electrode", Proceedings of the 6 th international Symposium of Power Sources, pp. 2889-302, (1968)
Examiner		Date Considered

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Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	C3	Visco, S.J., Liu, M., Armand, B. and De Jonghe, L.C., Solid Redox Polymerization Electrodes and Their use in All-Solid-State Batteries", Mol. Cryst. Liq. Cryst., 190, Page 198, 1990
	C4	Societe des Accumulateurs Fixes et de Traction, "Lithium-sulfur battery", Abstracts 111055d, Chemical Abstracts 66: 10360; 1967.
	C5	DeGott, P., "Polymere Carbone-Soufre Synthese Et Proprietes Electrochimiques," Doctoral Thesis at l'Institut National Polytechnique de Grenoble, (Date of Defense 19 June 1986).
	C6	Lauck, H., "Storage battery with lithium anode and sulfur cathode," Abstract # 9855s, Chemical Abstracts, 80: 467-468; 1974.
	C7	Peled et al., "Rechargeable Lithium-Sulfur Battery (Extended Abstact), Journal of Power Source, 26: 269-271, 1989.
	C8	Peled et al.; "Lithium-Sulfur Battery: Evaluation of Dioxolane-Based Electrolytes", J. Electrochem., Soc., 136 (6): 1621-1624, June 1989.
	C9	Peramunage and Licht, "A Solid Sulfur Cathode for Aqueous Batteries"; Science 261: 1029-1032, August 20, 1993.
	C10	Rauh et al., "Formation of Lithium Polysulfides in Aprotic Media", J. Inorg., Nuc. Chem., 39: 1761-1765, 1977.
	C11	Rauh et al. "A Lithium/Dissolved Sulfur Battery with an Organic Electrolyte"; J. Electrochem. Soc., 126(4): 523-527, April 1979.
	C12	Yamin and Peled, "Electrochemistry of Nonaqueous Lithium/Sulfur Cell", J. Power Sources, 9: 281-287, 1983.
	C13	Yamin et al., "Lithium Sulfur Battery,: J. Electrochem. Soc., 135(5): 1045-1048, May 1988.
	C14	S.J. Visco, M.M. Doeff, and L.C. De Jonghe, "Thin-Film Technology for Solid-State Lithium Batteries Employing Solid Redox Poly-Merization Cathodes", Pages 89-92, Society of Vacuum Coaters, 1991.
Examiner		Date Considered

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Form 1449 (Modified) Information Disclosure Statement By Applicant (Use Several Sheets if Necessary)	Atty Docket No.	Application No.:
	PLUSP023	09/789,379
	Applicant: Chu, et al	
	Filing Date	Group
	February 20, 2001	1745

Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	C15	Liu, Meilin, Visco, Steven J., and De Jonghe, Lutgard C., "Novel Solid Redox Polymerization Electrodes Electrochemical Properties", J. Electrochem Soc., Vol. 138, No. 7, Pages 1896-1901, July 1991.
	C16	Liu, Meilin, Visco, Steven J., and De Jonghe, Lutgard C., "Novel Solid Redox Polymerization Electrodes All-Solid State, Thin-Film, Rechargeable Lithium Batteries", J. Electrochem Soc., Vol. 138, No. 7, Pages 1891-1895, July 1991.
	C17	Ue, Makoto, Visco, Steven J., and De Jonghe, Lutgard C., "Comparison of Cathode Utilization between Polymeric Organodisulfide and Titanium Disulfide in Solid Polymer Electrode Rechargeable Lithium Cells", Denki Kagaku, Vol. 61, No. 12, Pages 1409-1415, 1993.
	C18	A. Gavrilov, et al. "In Situ Morphological Study of Lithium-Electrolyte Interface", Electrochemical Society, (Extended Abstract).
	C19	Meilin, Lui, "Novel Electrodes for Advanced Energy Storage System" Dissertation for Ph.D. at the University of Berkeley, Chapter 2, Pages 3-6, 1989.
	C20	Kavan, L., Novak, P., and Dousek, F.P., "Electrochimica Acta," Vol. 33, No. 11, Pages 1605-1612, March 8, 1988, Great Britain.
	C21	Brummer, S.B., et al., "Low Temperature Lithium/Sulfur Secondary Battery (Annual Progress Report, Dec. 1, 1974 - Dec. 1, 1975)," EIC Corporation, April 1976, Newton, Massachusetts.
	C22	Larry A. Dominey, "Lithium Batteries" New Materials, Developments and Perspectives, 1994, New York, Industrial Chemistry Library, Volume 5, pp. 137-165.
	C23	Ronald Snaith, et al., "Lithium Chemistry" A Theoretical and Experimental Overview, 1995, New York, John Wiley & Sons, Inc., pp. 227-477
	C24	Wang, Jiqiang, et al. "Investigations of Binary Lithium-Zinc, Lithium-Cadmium and Lithium-Lead Alloys as Negative Electrodes in Organic Solvent-Based Electrolyte", 1986, Solid State Ionics 20, pp.185-189.
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	PLUSP023	09/789,379
	Applicant:	
	Chu, et al	
	Filing Date	Group
	February 20, 2001	1745

Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	C25	Rao, B.M.L., et al. "Lithium-Aluminum Electrode", October 1977, J. Electrochem. Soc.: Electrochemical Science and Technology, pp.1490-1492.
	C26	Abraham, K.M., "Some Chemistry in the Li/SOCl ₂ + BrCl Cell", November 1998, J. Electrochem. Soc.: Electrochemical Science and Technology, pp.2686-2691
	C27	Besenhard, J.O., "Cycling Behavior and Corrosion of Li-Al Electrodes in Organic Electrolytes", 1978, J. Electroanal Chem., 94, pp.77-81.
Examiner		Date Considered

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